SPECIFICATION AMENDMENT

Paragraph from Page 3, lines 20 to 22 is revised and replaced as below:

a control unit (36) for calculating the blood cell deformability[[,]] with variation of the shearing force, which are determined through a computer analyses on time based data of the captured images and the pressure measurements [[and deformation on time based on data received from the pressure gauge (34) and the image capturing unit (35)]];

Paragraph from Page 4, lines 6 to 8 is revised and replaced as below:

The disposable blood test kit (20) is made of a transparent material such as [[a]] silicon, silica, quartz, glass, a polymer [[produced]] workable by a laser, an extruded polymer or ceramics

Paragraph from Page 4, lines 17 to 20 is revised and replaced as below:

The image capturing unit (35) [[could use]] can be adopted either a CCD sensor array, a CCD camera, a digital camera, a web camera, or a video camera for capturing the diffracted images. The light-emitting unit (10) is adopted either as a Laser Diode or Light Emitting Diode (LED).

A paragraph is added on Page 6, line 3 as shown below:

Fig. 10 is an alternative configuration of the instrument equipped with the image

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capturing unit (35), such as a CCD sensor array for directly capturing the diffracted images without screen of the present invention.

Paragraph from Page 7, lines 3 to 8 is revised and replaced as below:

[[a screen (31) for projecting the diffracted images of the blood cell which is passed through the slit channel; an image capturing unit (35) for capturing the images; a control unit (36) for calculating the blood cell deformability, variation of the shearing force, and deformation on time based on the data received from the pressure gauge (34) and the image capturing unit (35);]]

a screen (31) for projecting the diffracted images of the blood cells, which were generated by light scattering of blood cells passing through the slit channel; an image capturing unit (35) for capturing the images; a control unit (36) for determining the blood cell deformability and the shearing force on time based data of the captured images and measured pressure through the computer image analysis.

Paragraph from Page 7, lines 11 to 14 is revised and replaced as below:

The diluted blood sample is injected into the tiny blood sample pot (21) of the disposable blood test kit (20). When the blood sample penetrates through the slit channel and passes underneath the light emitting unit (10), the emitted light is scattered and diffracted through the deformed blood cells to project the images on the screen.

Paragraph from Page 8, lines 15 to 19 is revised and replaced as below:

a screen (31) for projecting the diffracted images of the blood cells which [[is]] are passed through the slit channel; an image capturing unit (35) for capturing the images; a control unit (36) for calculating the blood cell deformability[[,]] with variation of the shearing force, [[and deformation on time based on the data received from the pressure gauge (34) and the image capturing unit (35)]] which are determined on time based data of the captured images and the pressure measurements by the computer analyses;

Paragraph from Page 8, lines 22 to 24 is revised and replaced as below:

At this point, the image capturing unit (35) enables capturing the deformed blood cell diffraction image [[by projecting]] projected on the screen while the blood sample is passed under the light emitting unit through the slit channel (22). For capturing the images, the image capturing unit (35), can be adopted either a CCD camera, digital camera, web camera, or a video camera, which are capable to capture thirty-three frames per second.

Alternatively, the deformed blood cell diffraction image can be directly captured without projecting on the screen by adopting a CCD sensor array as the image-capturing unit (35). The CCD sensor array is able to detect the light intensity of the diffracted images and determine the iso-intensity curve of the detected light signal on the sensor array. Thus, the deformability can be determined from the diffracted light, which is directly projected on the CCD-sensor array without projecting screen.

Paragraph from Page 11, lines 13 to 16 is revised and replaced as below:

On the other hand, the image-capturing unit (35) captures the deformed blood cell image for analyzing the deformability of the blood cell in the ratio of length to breadth and

for determining the Deformation Index (DI) through the image analysis computer programming. The images of the blood cell diffraction captured by the image-capturing unit (35) are analyzed by ellipse curve-fitting computer software to determine the length (L) and width (W) of the analyzed elliptic images, and calculating the Deformation Index (DI). The Deformation Index "DI = (L-W)/(L+W)" is defined as the ratio of the difference to the sum of the length and the width.

Paragraph from Page 12, lines 18 is revised and replaced as below:

Equation 1: DI = [[(A-B)/(A+B)]](L-W)/(L+W), wherein DI represents Deformation Index, L is the length and W is the width.

Paragraph from Page 15, lines 2 to 8 is revised and replaced as below:

It is also possible to apply a different method to calculate the shear force instead of the [[volume]] direct measuring pressure. When the blood sample is prepared, the Buffer solution is dissolved to dilute five micro-liters of blood sample with the mixing rate of 100:1 or 200:1.

Because the volume of the blood sample is very small in the buffer solution, the effect of viscosity of the blood in the diluted blood sample may be ignored. Therefore, the viscosity of the diluted blood sample is considered the same as that of the buffer solution. Even tough a different blood sample is diluted into the buffer solution, the viscosity of the diluted blood sample is negligibly changed.